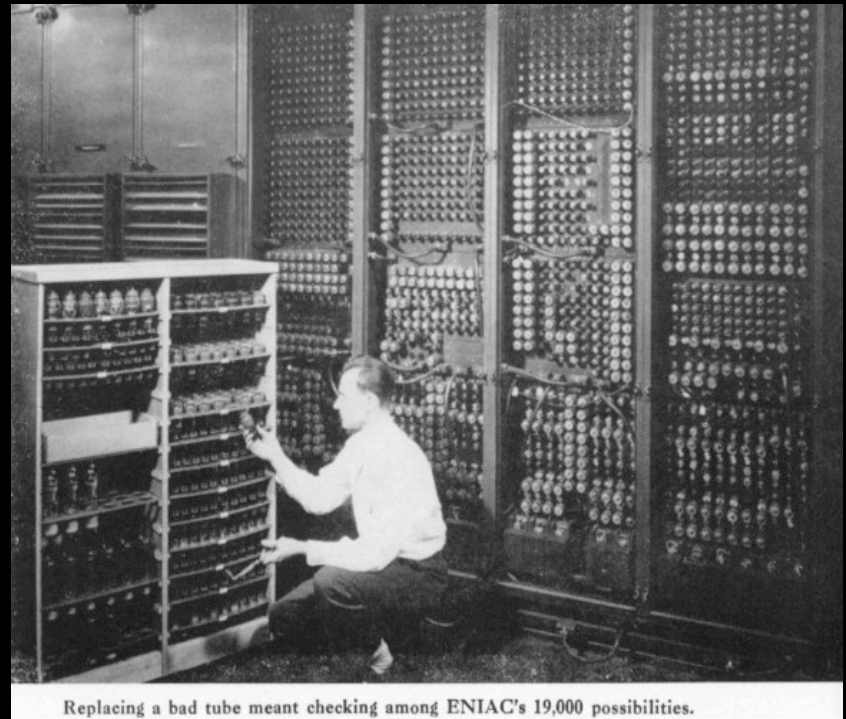


SOME OFFICIAL DRAWS ARE CARRIED OUT BY COMPUTER

frequent draws lessened costs



Replacing a bad tube meant checking among ENIAC's 19,000 possibilities.

INSTANT TICKETS

MANUAL SELECTION OF ONE'S OWN
"NUMBERS"

"RANDOM" SELECTION OF "NUMBERS"
PROVIDED ON REQUEST, REFERRED
TO HERE AS QUICK PICKS

MIX GIVES A CONTAMINATED POISSON

BOARDS WITH 0	25990036
BOARDS WITH 1	11931560
BOARDS WITH 2	2877951
BOARDS WITH 3	504471
BOARDS WITH 4	80060
BOARDS WITH 5	15461
BOARDS WITH 6	4919
BOARDS WITH 7	2430
BOARDS WITH 8	1519
BOARDS WITH 9	1097

(Previous slide gives the number of combinations that were played n times, n up to 9, when 19.9 million tickets went on 41.4 million combinations. Manual play accounted for about 1/4 of the tickets.)

QUICK PICK GENERATION

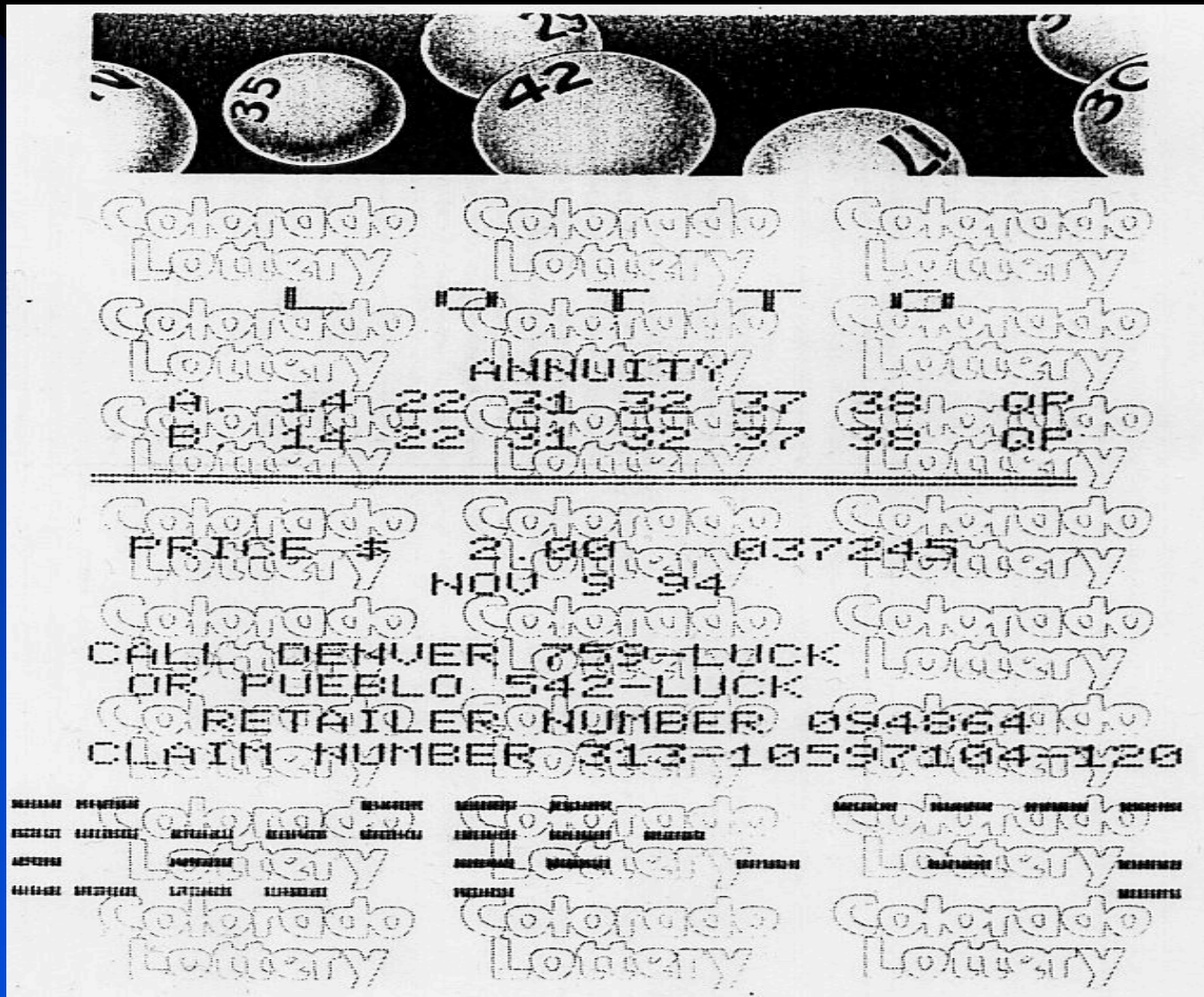
NOW USUALLY DONE AT THE
TERMINAL, AS OPPOSED TO
AT A CENTRAL LOCATION

ALGORITHMS ARE SIMPLE

SEEDING, SEEDING, SEEDING

(Ensuring ten random choices is not so hard, producing and keeping track of on the order of 50 million in a day is another story. Algorithms are usually standard ones, their seeding is what deserves careful consideration.)

Duplicate Quick Pick Play



(Of course people's intuition is not necessarily good as to what is truly random, grumbling might follow. The previous slide shows a ticket sold with identical choices in a 6 of 42 game . . . some 5.25 million combinations in all. If 5.25 million of these tickets are sold, expect one as shown.)

Popular plays at Super Lotto are . . .

Choose 5 of 47

Choose 1 of 27

(THIS IS A TEST)

01	02	03	04	05	06	1982
12	13	14	17	47	20	1826 ¹
07	17	27	37	47	07	1307
04	05	24	30	46	09	808 [?]
10	36	39	44	47	14	773 ²
04	14	24	34	44	04	756
14	21	28	35	42	07	750
05	15	25	35	45	05	722
08	12	24	32	44	17	709 [?]
07	14	21	28	35	07	698
06	16	26	36	46	06	638
06	09	24	40	42	26	591 ³

(Intelligent play would be manual and meant to avoid other manual plays. Some of those listed are clear-cut losers, others less so. The combination whose frequency of choice sports superscript j names the draw j times back; the first question-marked entry is likely to be found on the back of a play ticket under the inscription “this is how you play the game.”)

How many combinations do players “know”?

We know the number of boards covered and the number of Quick Picks played. Quick Pick coverage is independent of manual coverage, hence the number of boards not covered at all, divided by the number of boards not covered by Quick Picks, is about the proportion not covered by manual plays.

(Intelligent play is not so hard to accomplish. For an interesting book on what combinations people “know”, see “How to Win More” by Henze and Riedwyl. Prime numbers are no big secret, for example.)

STATISTICIAN THINGS

REVENUE PROJECTION
(MAGIC CONSTANTS AND
SIMULATION PROGRAMS)

PLAYER DEMOGRAPHICS

TERMINAL PLACEMENT

GAME DEVELOPMENT

(The Board of Education - at least in California - cares about sales projections.

The state cares about who plays these games.

The Lottery cares about proper placement of terminals.

Game development is not very advanced . . . Lotto?! Keno?!)